Service Manual

Dishwashers Mark II

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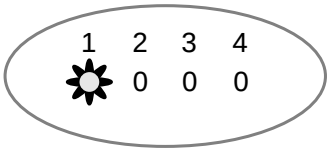
1 DIWA 126 TIMER SAFETY DEVICE MANAGEMENT

N.B. All the machines with four LEDS are equipped with a DIWA 126 Timer.

1.1 Alarms displayed and operations to be carried out

1.1.1 Acquastop Sensor Operation (overflow) LED 1 activation



The control continually monitorises the status of the acquastop sensor switch. If it is closed for more than 5", there is a permanent fault.

Machine performance

- Resets all active settings
- Deactivates all loads
- Drains until pressure switch empty +1'

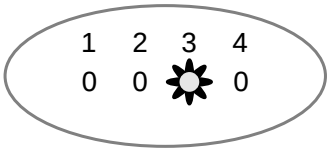
Checks to be carried out

1. Empty the tray
2. Set a cycle
3. Check if there is a leak, through the two inspection openings located in the lower part of the machine, behind the skirting.

If there is no leak check or replace:

- Pressure Switch
- Sump pressure drop (*air trap*)
- Solenoid valve jammed/higher capacity
- Lower/upper impeller blocked
- Levelling the Dishwasher
- Excessive loss of rinse aid
- Small pressure switch tube loose (*air leak*) or there is water inside
- Drain pump disconnected

1.1.2 NTC fault
LED 3 activation



The electronic control constantly checks the temperature sensor status; if it is open or there is a short circuit, there is a fault.

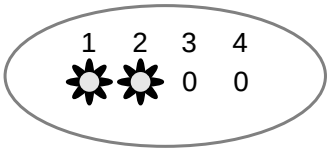
Machine performance

- Resets all active settings
- Deactivates all loads

Checks to be carried out

- Short-circuited thermistor open
- Thermistor connector incorrectly joined to timer
- Thermistor fault

1.1.3 Timeout empty from Pressure switch during Draining
LED 1 + 2 alternating activation



During the draining phase the control waits for the empty pressure switch signal for max 3'20", after which a fault has occurred.

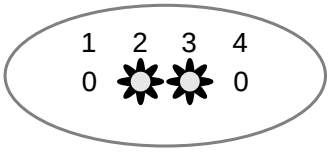
Machine performance

- Resets all active settings
- Deactivates all loads
- Drains until pressure switch empty +1'

Checks to be carried out

- Drain pump interrupted/faulty
- Air bubble in drain hose
- Drain hose obstructed/plugged
- Pressure switch stuck on full
- Electronic timer
- Water in small pressure switch tube

1.1.4 Pressure switch full timeout during water filling LEDS 2 + 3 alternate activation



During the static filling phase (with washing pump deactivated) the control waitsfor max 6', after which a fault has occurred.

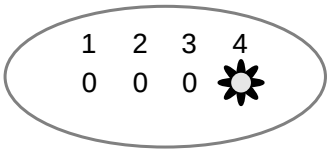
Machine performance

- Resets all active settings
- Deactivates all loads
- Drains until pressure switch empty +1'

Checks to be carried out

- Water pressure not less than 0.2 bar (for correct operation is must be more than or equal to 0.2 bar)
- Water supply tap closed
- Pressure switch stuck on empty
- Faulty solenoid valve

1.1.5 Water Heating Timeout LED 4 activation



During the washing + heating phase, the control waits for the set temperature to be reached for max 70', after which there is a fault.

Machine performance

- Resets all active settings
- Deactivates all loads
- Drains until pressure switch +1'

Checks to be carried out

- Thermistor support bracket
- Capsule contact with tank base
- Heater operation

1.2 Types of alarms not displayed valid for all models of Electronic Dishwashers

1.2.1 Machine jammed (programming impossible)

1. Reset the dishwasher when it is operating, by turning the knob to **"Reset"** or pressing the **"Reset"** button. Open the door to allow program resetting.
2. *Leakage*, in this case the machine is blocked:
   - invert position of the plug in the socket
   - check plug earth
   - if the fault continues, disconnect the earths of the motor, heater, filter

1.2.2 Condensate

Warning: Condensate can block the dishwasher, check the gasket seal and machine levelling.

It is advisable to replace the timer, once the condensate has been eliminated.

Drying information

Warning: machines without fan motor hold the water in the tank for many minutes at the end of the warm rinsing phase.

1.3 Examples of programs available for Free Installation Machines with DIWA 126 Timer

	INDESIT	ARISTON
1	Energic	Energic
2	Normal	Normal
3	Recently soiled	Recently soiled
4	Delicate items	Glass
5	Rapid Drying	Rapid 55°
6	Rapid	Rapid 25°
7	Soak	Soak

1.4 DIWA 126 cycles

No CYCLES				1		2		3		4		5		6		7
	Pressure switch status	NTC		INTENSIVE		DAILY		NORMAL		GLASS		RAPID DRYING 68°		RAPID 25		SOAK
Pre-washes																
Draining 16"	V			X		X		X		X		X		X		X
Static filling up to P	P			X		X		X								
Filling time 20"				X		X		X								
Dynam. filling up to P	P			X		X		X								
Washing pump 8'						X		X								
Heats		40°		X												
Drains+1'	V			X		X		X								
Static filling up to P	P					X										
Filling time 20"						X										
Dynam. filling up to P	P					X										
Washing pump 8'						X										
Washing pump 7'						X										
Draining 1'	V					X										
Washes																
Static filling up to P	P			X		X		X		X		X		X		
Filling time 20"				X		X		X		X		X		X		
Dynam. filling up to P	P			X		X		X		X		X		X		
Pump+detergent 1'				X						X		X		X		
Pump+regenerate 1'												X		X		
Heats		38°				X		X				X		X		
Pump+detergent 1'						X		X								
Heats+pump 8'		50°				X		X		X						
Heats+pump 5'		56°		X						X						
Washing pump 8'						X		X				X		X		
Washing pump 8'						X										
Heats+pump 5'		68°		X												
Min. temp. control				X		X		X		X		X		X		
Filling time 15''												X		X		
Draining 1'	V			X		X		X				X		X		
Filling time 15''						X		X								
Draining 1'	V					X		X								
Filling time 15''												X		X		
Draining 1'	V									X		X		X		
Rinses																
Static filling up to P	P			X										X		
Filling time 20"				X										X		
Dynam. filling up to P	P			X										X		X
Crystal load	P									X						
Resis. impulses										X						
Washing pump 8'				X						X				X		X
Draining 1'	V			X						X				X		X
Static filling up to P	P			X												
Filling time 20"				X												
Dynam. filling up to P	P			X												
Washing pump 4'				X												
Draining 1'	V			X												
Static filling up to P	P			X		X		X		X		X				
Filling time 20"				X		X		X		X		X				
Dynam. filling up to P	P			X		X		X		X		X				
Rinse aid reset 0.3''				X		X		X		X		X				
Pump+regenerate 1'				X		X		X		X		X				
Heats		50°		X		X		X		X		X				
Pump+detergent 1'				X		X		X				X				
Pump+detergent 15''										X		X				
Heats		68°		X		X		X		X		X				
Drying																
Draining 1'	V			X		X		X		X		X				
Drying 8.5''				X		X				X						
Filling time 15''				X		X		X		X		X				
Draining 1'	V			X		X		X		X		X				
Drying 1'				X		X		X		X		X				
Draining 30''	V			X		X		X		X		X				
Filling time 15''				X		X		X		X		X				
Draining 30''	V			X		X		X		X		X				
Drying 1'				X		X		X		X		X				
Draining 30''	V			X		X		X		X		X				
Drying 5.5'				X		X		X		X		X				
End				X		X		X		X		X		X		X

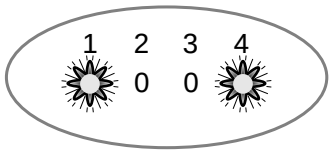
As from the beginning of January, 2001 the following new DIWA 126 cycles will come into production

No CYCLES			1	2	3	4	5	6	7
	Pressure switch status	NTC	INTENSIVE	DAILY	NORMAL	GLASS	RAPID DRYING 68°	RAPID 25	SOAK
Pre-washes									
Draining 16"	V		X	X	X	X	X	X	X
Static filling up to P	P		X	X	X				
Filling time 20"			X	X	X				
Dynam. filling up to P	P		X	X	X				
Washing pump 8'					X				
Washing pump 28'				X					
Heats		40°	X						
Drains+1'	V		X	X	X				
Static filling up to P	P			X					
Filling time 20"				X					
Dynam. filling up to P	P			X					
Washing pump 4'				X					
Heats	V			X					
Washes									
Static filling up to P	P		X	X	X	X	X	X	
Filling time 20"			X	X	X	X	X	X	
Dynam. filling up to P	P		X	X	X	X	X	X	
Pump+detergent 1'			X	X	X	X	X	X	
Pump+regenerate 1'								X	
Heats+pump 8'		48°		X	X	X	X	X	
Washing pump 8'				X					
Washing pump 8'				X					
Washing pump 8'				X					
Heats+pump 5'		48°	X						
Washing pump 8'					X				
Heats+pump 5'		68°	X						
Min. temp. control			X	X	X	X	X	X	
Filling time 15''								X	
Draining 1'	V		X	X	X			X	
Filling time 15''				X	X				
Draining 1'	V			X	X				
Filling time 15''								X	
Draining 1'	V					X	X	X	
Rinses									
Static filling up to P	P		X					X	X
Filling time 20"			X					X	X
Dynam. filling up to P	P		X					X	X
Crystal load	P					X			
Resis. impulses						X			
Washing pump 8'			X			X		X	X
Draining 1'	V		X			X		X	X
Static filling up to P	P		X						
Filling time 20"			X						
Dynam. filling up to P	P		X						
Washing pump 4'			X						
Draining 1'	V		X						
Static filling up to P	P		X	X	X	X	X		
Filling time 20"			X	X	X	X	X		
Dynam. filling up to P	P		X	X	X	X	X		
Rinse aid reset 0.3''			X	X	X	X	X		
Pump+regenerate 1'			X	X	X	X	X		
Heats		50°	X	X	X	X	X		
Pump+detergent 1'			X	X	X		X		
Pump+detergent 15''						X	X		
Heats		68°	X	X	X	X	X		
Drying									
Draining 1'	V		X	X	X	X	X		
Drying 8.5''			X	X		X			
Filling time 15''			X	X	X	X	X		
Draining 1'	V		X	X	X	X	X		
Drying 1'			X	X	X	X	X		
Draining 30''	V		X	X	X	X	X		
Filling time 15''			X	X	X	X	X		
Draining 30''	V		X	X	X	X	X		
Drying 1'			X	X	X	X	X		
Draining 30''	V		X	X	X	X	X		
Drying 5.5'			X	X	X	X	X		
End			X	X	X	X	X	X	X

1.5 Testing/Autotest procedure

To start the procedure, follow the instructions below:

1. Reset the machine with the **"Reset" button**
2. Select **OFF** (*machine shutdown*)
3. Check that the appliance door is closed
4. Turn the selector to **"2"**
5. Select **ON** (*machine operating*) and then turn the selector from **"2"** to **"1"** and vice versa, until the **LEDS "1" - "4"** start blinking



6. Switch the machine off and then on again.
7. Turn the knob from **"1"** to **"2"** and vice versa, until the LEDS **"2"** and **"4"** remain alight
8. After about 4" the testing cycle will start, during which the LEDS **"2"** and **"3"** will alternately blink

1.5.1 Starting Functional Testing

1. Fills up and washes up to the 2nd level
2. Washing motor + heater 5"
3. Washing motor 5"
4. Heater 5"
5. Dispenser 5"
6. Alternate wash 5"
7. Regenerate 10"
8. Drain pump 15"
9. Load solenoid valve 25"

To exit the testing cycle/autotest, turn the knob to "Reset"; after 4" the cycle will stop.

2 DIWA 123 LCD TIMER

N.B. All the machines with a display are equipped with a DIWA 123 LCD Timer.

2.1 Description of Faults Displayed for Machines with DIWA 123 LCD Timer and operations to be performed

2.1.1 Displays A01
Acquastop Sensor Operation

The control continually monitorises the status of the acquastop sensor switch. If it is closed for more than 5", there is a fault.

Machine performance

- Resets all active settings
- Deactivates all loads
- Drains until acquatop empty +1'

Checks to be carried out

1. Empty the tray
2. Set a cycle
3. Check whether there is a leak by means of the two inspection openings located on the lower front part of the machine

If there is no leak check or replace:

- Pressure Switch
- Sump pressure drop (*air trap*)
- Solenoid jammed /higher capacity
- Lower/upper impeller blocked
- Levelling the Dishwasher
- Excessive loss of rinse aid
- Small pressure switch tube loose (*air leak*) or there is water inside
- Drain pump disconnected

2.1.2 Displays A02
Heater Relay in Closed Circuit - Open Circuit

All the time the drive relay of the heating element is idle with the door closed, the electronic control checks that its contacts are actually open.

If the control contacts are erroneously closed, a fault has occurred.

Machine performance

- Resets all active settings
- Deactivates all loads
- Fills with water until pressure switch full
- Activates the washing pump indefinitely (if necessary, the water level is topped up)

Checks to be carried out

- Electronic timer (*Card*) relay stuck
- heater interrupted
- Safety thermostat:
  1) off setting
  2) open/faulty
  3) crimped thermostat support bracket bent
- Thermistor disconnected or thermal interface material missing (which activates the safety thermostat)

2.1.3 Displays A03
Probe Short-Circuited or Open (NTC)

The electronic control costantly checks the temperature sensor status; if it is open or there is a short circuit, a fault has occurred.

Machine performance

- Resets all active settings
- Deactivates all loads
- Drains until pressure switch +1'

Checks to be carried out

- Check probe cables (*red*)
- Check probe connector on timer
- Faulty probe with C.C. or O.C.

2.1.4 Displays A04
Incorrect heating time

During the washing + heating phase, the control waits for the set temperature to be reached for max 70', after which there is a fault.

Machine performance

- Resets all active settings
- Deactivates all loads
- Drains until pressure switch +1'

Checks to be carried out

- Thermistor support bracket (*probably disconnected*)
- Capsule contact with tank base
- heater operation

2.1.5 Displays A05
Incorrect time for Pressure switch Empty

During the draining phase, the control waits for the pressure switch empty signal for max 3'20", after which a fault has occurred.

Machine performance

- Resets all active settings
- Deactivates all loads
- Drains until pressure switch empty +1'

Checks to be carried out

- Faulty drain pump
- Air bubble in drain hose
- Drain hose obstructed/plugged
- Pressure switch stuck on full
- Water in small pressure switch tube

2.1.6 Displays H2O
Incorrect Pressure switch Full time

During the static filling phase (*with washing pump off*) the control waits for max 6', after which it is definitely faulty.

Checks to be carried out

- Water pressure not less than 0.2 bar (for correct operation is must be more than or equal to 0.2 bar)
- Water supply tap closed
- Pressure switch stuck on empty
- Electric timer (*Card*) blocked
- Solenoid valve

2.1.7 Displays A07
Washing pump triac in Closed Circuit - Open Circuit

Checks to be carried out

- Drain pump disconnected
- Acquastop operation in case of water leak

2.1.8 Displays A08
Auxiliary winding pump triac with Closed Circuit - Open Circuit

Machine performance

- Draining until pressure switch empty +30"

Checks to be carried out

- Wash motor correct operation

2.1.9 Displays A09
Main winding pump triac with Closed Circuit - Open Circuit

Machine performance

- Drains until pressure switch empty +30"

Checks to be carried out

- Wash motor correct operation

2.1.10 Displays A10
Load solenoid valve triac with Closed Circuit - Open Circuit

Machine performance

- Drains until pressure switch empty +30"

Checks to be carried out

- Disconnected load solenoid valve correct operation

2.1.11 Displays A11
$^1/_2$ load solenoid valve triac or alternating motor

Machine performance

- Drains until pressure switch empty +30"

Checks to be carried out

- Correct operation of solenoid valve and alternating motor
- Replace electrical timer (*Card*)

2.1.12 Displays A12
Heater relay with Open Circuit

Machine performance

- Drains until pressure switch empty +30"

Checks to be carried out

- Heater
- Electronic timer (*Card*)

2.1.13 Displays A13
Dispenser triac incorrect operation with Closed Circuit - Open Circuit

Machine performance

- The appliance continues the wash cycle, but the detergent compartment lid does not function properly

Some machine faults which are not displayed change the washing performance required.

- Solenoid valve triac malfunction with Closed Circuit - Open Circuit
  The appliance continues the wash cycle, but is not able to collect the salt to soften the water
- Fan Triac + Heater malfunction with Closed Circuit - Open Circuit or disconnected cables
  The appliance continues the wash cycle but does not dry properly
- Eeprom malfunction
  The appliance finishes the wash before it is completed, then it stops
- Turbidity sensor fault
  The appliance continues its wash cycle assuming a default turbidity

2.1.14 Displays A14
Pressure switch surveyed empty during washing phase

During the cycle the water is discharged from the tank through the discharge pipe.

This is a problem of incorrect installation.

This is what could have happened:

- the discharge pipe is below the water level in the tank (in this case the water will overflow from the tank)
- the discharge pipe does not siphon
- the discharge pipe is siphoning but is immersed into the water.

2.2 Examples of available programs for the Free Installation Machines with DIWA 123+LCD Timer

	INDESIT	ARISTON	ARISTON with Sensor
1	Intensive	Intensive	Auto-Intensive
2	Normal	Normal	Auto-Normal
3	Recently soiled	DuoWash	Auto-DuoWash
4	Delicate items	Glass	Glass
5	Rapid	Rapid	Rapid
6	Warm rinse	Rinses	Rinses
7	Soak	Soak	Soak

2.2.1 Duo**Wash**

This cycle is extremely delicate on glass and strong and energic on heavily soiled pots.

All inside the same washing load:

- The delicate dishes are washed with reduced pressure and only for 30% of the total cycle time,
- The heavily soiled dishes are washed with maximum pressure and for 70% of the total cycle time.

Wash performance

1. Alternate wash (*first above and then below and vice versa*)
2. When it is washing above, one of the two motor windings disconnects and the jet is more delicate
3. The washing temperature is 50°C instead of 55°C

In the other cases the alternate wash takes place with both motor windings, above and below.

Moreover, all the warm rinses of all cycles, are performed with one winding only up to 50°.

2.2.2 Sensor**System**

The **"turbidity sensor"** reads the type of dish soil, establishing the best washing strategy as regards cycle time, number of rinses and quantity of water used.

In this way the best result is obtained with the minimum costs and minimum pollution level.

2.3 DIWA 123 cycles

No CYCLES				1		2		3		4		5		6		7
	Pressure switch status	NTC	Alternation	Intensive		Daily		After Dinner		Crystal		Rapid		Hot Rinse		Soak
Pre-washes																
Draining 16''	V			X		X		X		X		X		X		
Total static load	P		X	X		X		X								
Washing pump 8'			X	X		X		X								
Drains+1'	V			X		X		X								
Total static load	P		X	X		X		X								
Heats		45°	X	X												
Washing pump 4'			X	X				X								
Washing pump 24'			X			X										
Draining 1'	V			X		X		X								
Washes																
Total static load	P			X		X		X		X		X				
Pump+detergent 1'										X		X				
Pump+regenerate 1'												X				
Heats		38°		X		X		X				X				
Pump+detergent 1'				X		X		X								
Heats		50°				X		X		X						
Washing pump 8'								X								
Heats+pump 5'		56°								X						
Washing pump 8'												X				
Heats		70°		X												
Washing pump 24'				X		X										
Min. temp. control				X		X		X		X		X				
Filling time 15''												X				
Draining 1'	V			X		X		X				X				
Filling time 15''						X		X								
Draining 1'	V					X		X								
Filling time 15''												X				
Draining 1'	V									X		X				X
Rinses																
Total static load	P			X								X				X
Crystal load	P									X						
Resis. impulses										X						
Washing pump 8'			X									X				X
Washing pump 20'			X	X						X						
Draining 1'	V			X						X		X				X
Total static load	P			X		X		X		X						
Rinse aid reset 0.3''				X		X		X		X				X		
Pump+regenerate 1'			X	X		X		X		X				X		
Heats		50°	X	X		X		X		X				X		
Pump+rinse aid 1'				X		X		X						X		
Pump+rinse aid 15'										X						
Heat+2"pump		70°		X		X		X		X				X		
Drying See: **Drying Phases**																

Drying phases

1. Dishwater with drying fan ON
   In this case drying time will be 40'
2. Dishwasher with drying fan OFF.
   In this case drying time will be 15'

1. Dishwasher without drying fan ON.
   In this case drying time will be 15'
2. Dishwasher without drying fan OFF.
   In this case drying time will be 0

In some models (see column **Alternation**), there is an alternate wash with a complete cycle of 4': 3' in the lower basket and 1' in the upper basket.

In the first part of the ramp the auxiliary winding is disconnected so that only the upper basket is washed.
As shown in the line chart, there are two regenerate steps. The first is carried out by all the 15' drying cycles.
In the 40' cycles, the regenerate phase takes place when the drying starts.

Dishwasher with Drying Fan ON

Drying																
Regenerate				X		X		X		X		X		X		
Drying 13'+Vent.				X		X		X		X				X		
Drying 27'				X		X		X		X				X		
Draining 1'	V			X		X		X		X				X		
Filling time 15"				X		X		X		X				X		
Draining 1'	V			X		X		X		X				X		
Drying 1'				X		X		X		X				X		
Draining 30"	V			X		X		X		X				X		
Filling time 15"				X		X		X		X				X		
Draining 30"	V			X		X		X		X				X		
Drying 1'				X		X		X		X				X		
Draining 30"	V			X		X		X		X				X		
End				X		X		X		X		X		X		X

Dishwasher with Drying Fan OFF

Drying																
Drying 10'+Vent.				X		X		X		X				X		
Drying 5'				X		X		X		X				X		
Draining 1'	V			X		X		X		X				X		
Filling time 15"				X		X		X		X				X		
Draining 1'	V			X		X		X		X				X		
Drying 1'				X		X		X		X				X		
Draining 30"	V			X		X		X		X				X		
Filling time 15"				X		X		X		X				X		
Draining 30"	V			X		X		X		X				X		
Drying 1'				X		X		X		X				X		
Draining 30"	V			X		X		X		X				X		
End				X		X		X		X		X		X		X

Dishwasher without Drying Fan ON

Drying																
Regenerate				X		X		X		X		X		X		
Drying 10'				X		X		X		X				X		
Drying 5'				X		X		X		X				X		
Draining 1'	V			X		X		X		X				X		
Filling time 15"				X		X		X		X				X		
Draining 1'	V			X		X		X		X				X		
Drying 1'				X		X		X		X				X		
Draining 30"	V			X		X		X		X				X		
Filling time 15"				X		X		X		X				X		
Draining 30"	V			X		X		X		X				X		
Drying 1'				X		X		X		X				X		
Draning 30"	V			X		X		X		X				X		
End				X		X		X		X		X		X		X

Dishwasher without Drying Fan OFF

Drying																
Draining 1'	V			X		X		X		X				X		
Filling time 15"				X		X		X		X				X		
Draining 1'	V			X		X		X		X				X		
Drying 1'				X		X		X		X				X		
Draining 30"	V			X		X		X		X				X		
Filling time 15"				X		X		X		X				X		
Draining 30"	V			X		X		X		X				X		
Drying 1'				X		X		X		X				X		
Draining 30"	V			X		X		X		X				X		
End				X		X		X		X		X		X		X

2.4 DIWA 123 cycles with Turbidity Sensor

No CYCLES				1					2					3					4		5		6		7
	Pressure switch status	NTC	Alternation	Auto Intensive					Auto Normal					Auto crystal&pot DuoWash					Crystal		Rapid		Hot Rinse		Soak
Level of turbidity				1	2	3	4		1	2	3	4		1	2	3	4								
Pre-washes																									
Draining 16''	V			X	X	X	X		X	X	X	X		X	X	X	X		X		X		X		
Total static load	P		X	X	X	X	X		X	X	X	X		X	X	X	X								
Washing pump 8'			X	X	X	X	X		X	X	X	X		X	X	X	X								
Drains+1'	V			X	X	X	X		X	X	X	X		X	X	X	X								
Total static load	P		X	X	X	X	X			X	X	X		X	X	X	X								
Heats		30°	X	X											X										
Heats		35°	X		X											X									
Heats		40°	X			X																			
Heats		45°	X				X																		
Heats		50°	X														X								
Washing pump 4'			X	X	X	X	X							X											
Washing pump 8'			X												X										
Washing pump 12'			X							X						X									
Washing pump 16'			X								X						X								
Washing pump 24'			X									X													
Draining 1'	V			X	X	X	X			X	X	X		X	X	X	X								
Washes																									
Total static load	P			X	X	X	X		X	X	X	X		X	X	X	X		X		X				
Pump+detergent 1'																			X		X				
Pump+regenerate 1'																					X				
Heats		38°		X	X	X	X		X	X	X	X		X	X	X	X				X				
Pump+detergent 1'				X	X	X	X		X	X	X	X		X	X	X	X								
Heats		50°							X	X	X	X		X	X	X	X		X						
Washing pump 8'									X					X											
Heats+pump 5'		56°																	X						
Washing pump 8'																					X				
Heats		65°		X	X																				
Heats		70°				X	X																		
Washing pump 12'				X																					
Washing pump 16'					X					X	X				X										
Washing pump 20'						X																			
Washing pump 24'							X					X				X	X								
Min. temp. control				X	X	X	X		X	X	X	X		X	X	X	X		X		X				
Filling time 15''																					X				
Draining 1'	V			X	X	X	X		X	X	X	X		X	X	X	X				X				
Filling time 15''									X	X	X	X		X	X	X	X								
Draining 1'	V								X	X	X	X		X	X	X	X								
Filling time 15''																					X				
Draining 1'	V																		X		X				X
Rinses																									
Total static load	P			X	X	X	X														X				X
Crystal load	P																		X						
Resis. impulses																			X						
Washing pump 8'			X	X																	X				X
Washing pump 12'			X		X																				
Washing pump 16'			X			X																			
Washing pump 20'			X	X	X	X	X												X						
Draining 1'	V			X	X	X	X												X		X				X
Total static load	P			X	X	X	X		X	X	X	X		X	X	X	X		X						
Rinse aid reset 0.3''				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Pump+regenerate 1'			X	X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Heats		50°	X	X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Pump+rinse aid 1'				X	X	X	X		X	X	X	X		X	X	X	X						X		
Pump+rinse aid 15'																			X						
Heats+2"pump		70°		X	X	X	X		X	X	X	X		X	X	X	X		X				X		

Drying phases

1. Dishwater with drying fan ON
   In this case drying time will be 40'
2. Dishwasher with drying fan OFF.
   In this case drying time will be 15'

1. Dishwasher without drying fan ON.
   In this case drying time will be 15'
2. Dishwasher without drying fan OFF.
   In this case drying time will be 0

Alternating steps

In some models (see column **Alternation**), there is an alternate wash with a complete cycle of 4': 3' in the lower basket and 1' in the upper basket.

Warm rinse

In the first part of the ramp the auxiliary winding is disconnected so that only the upper basket is washed.

Regenerate

As shown in the line chart, there are two regenerate steps. The first is carried out by all the 15' drying cycles.
In the 40' cycles, the regenerate phase takes place when the drying starts.

Dishwasher with Drying Fan ON

Drying																								
Regenerate				X	X	X	X		X	X	X	X		X	X	X	X		X		X		X		
Drying 13'+Vent.				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying 27'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 1'	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Filling time 15"				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 1'	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying 1'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Filling time 15"				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying 1'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
End				X	X	X	X		X	X	X	X		X	X	X	X		X		X		X		X

Dishwasher with Drying Fan OFF

Drying																								
Drying 10'+Vent.				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying 5'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 1'	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Filling time 15"				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 1'	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying 1'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Filling time 15"				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying 1'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
End				X	X	X	X		X	X	X	X		X	X	X	X		X		X		X		X

Dishwasher without Drying Fan ON

Drying																								
Regenerate				X	X	X	X		X	X	X	X		X	X	X	X		X		X		X		
Drying 10'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying 5'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 1'	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Filling time 15"				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 1'	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying 1'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Filling time 15"				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying 1'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
End				X	X	X	X		X	X	X	X		X	X	X	X		X		X		X		X

Dishwasher without Drying Fan OFF

Drying																								
Draining 1'	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Filling time 15"				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 1'	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying 1'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Filling time 15"				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying 1'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
End				X	X	X	X		X	X	X	X		X	X	X	X		X		X		X		X

As from the end of January, 2001 the following new DIWA 123 cycles with Turbidity Sensor will come into production:

No CYCLES				1					2					3					4		5		6		7
	Pressure switch status	NTC	Alternation	Auto Intensive					Auto Normal					Auto crystal&pot					Crystal		Rapid		Hot Rinse		Soak
Level of turbidity				1	2	3	4		1	2	3	4		1	2	3	4								
Pre-washes																									
Draining 16''	V			X	X	X	X		X	X	X	X		X	X	X	X		X		X		X		
Total static load	P		X	X	X	X	X		X	X	X	X		X	X	X	X								
Washing pump 8'			X	X	X	X	X							X	X	X	X								
Washing pump 28'			X						X	X	X	X													
Drains+1'	V			X	X	X	X		X	X	X	X		X	X	X	X								
Total static load	P		X	X	X	X	X			X	X	X		X	X	X	X								
Heats		30°	X	X											X										
Heats		35°	X		X											X									
Heats		40°	X			X																			
Heats		45°	X				X																		
Heats		50°	X														X								
Washing pump 4'			X	X	X	X	X			X	X	X		X											
Washing pump 8'			X												X										
Washing pump 12'			X													X									
Washing pump 16'			X														X								
Washing pump 24'			X																						
Draining 1'	V			X	X	X	X			X	X	X		X	X	X	X								
Washes																									
Total static load	P			X	X	X	X		X	X	X	X		X	X	X	X		X		X				
Pump+detergent 1'																			X		X				
Pump+regenerate 1'																					X				
Heats		38°		X	X	X	X		X	X	X	X		X	X	X	X				X				
Pump+detergent 1'				X	X	X	X		X	X	X	X		X	X	X	X								
Heats		48°							X	X	X	X		X	X	X	X		X						
Washing pump 8'									X					X											
Heats+pump 5'		56°																	X						
Washing pump 8'																					X				
Heats		65°		X	X																				
Heats		70°				X	X																		
Washing pump 12'				X						X															
Washing pump 16'					X						X				X										
Washing pump 20'						X										X									
Washing pump 28'							X					X					X								
Min. temp. control				X	X	X	X		X	X	X	X		X	X	X	X		X		X				
Filling time 15''																					X				
Draining 1'	V			X	X	X	X		X	X	X	X		X	X	X	X				X				
Filling time 15''									X	X	X	X		X	X	X	X								
Draining 1'	V								X	X	X	X		X	X	X	X								
Filling time 15''																					X				
Draining 1'	V																		X		X				X
Rinses																									
Total static load	P			X	X	X	X														X				X
Crystal load	P																		X						
Resis. impulses																			X						
Washing pump 8'			X	X															X		X				X
Washing pump 12'			X		X																				
Washing pump 16'			X			X																			
Washing pump 20'			X				X																		
Draining 1'	V			X	X	X	X												X		X				X
Total static load	P			X	X	X	X		X	X	X	X		X	X	X	X		X						
Rinse aid reset 0.3''				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Pump+regenerate 1'			X	X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Heats		50°	X	X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Pump+rinse aid 1'				X	X	X	X		X	X	X	X		X	X	X	X						X		
Pump+rinse aid 15'																			X						
Heats+2"pump		66°		X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying See: **Drying Phases**																									

Drying phases

1. Dishwater with drying fan ON
   In this case drying time will be 50'
   Water discharge plus 10' of the fan
2. Dishwasher with drying fan OFF.
   In this case drying time will be 15'

1. Dishwasher without drying fan ON.
   In this case drying time will be 60'
   Water discharge plus 0'
2. Dishwasher without drying fan OFF.
   In this case drying time will be 15'

Alternating steps

In some models (see column **Alternation**), there is an alternate wash with a complete cycle of 4': 3' in the lower basket and 1' in the upper basket.

Warm rinse

In the first part of the ramp the auxiliary winding is disconnected so that only the upper basket is washed.

Regenerate

As shown in the line chart, there are two regenerate steps. The first is carried out by all the 15' drying cycles.
In the 40' cycles, the regenerate phase takes place when the drying starts.

Dishwasher with Drying Fan ON

Drying																								
Regenerate				X	X	X	X		X	X	X	X		X	X	X	X		X		X		X		
Drying 50'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 1'	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying 10'+Vent.				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 1'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Filling time 15"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 1'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying 1'	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Filling time 15"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying 1'	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"				X	X	X	X		X	X	X	X		X	X	X	X		X		X		X		X

Dishwasher with Drying Fan OFF

Drying																								
Drying 15'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 1'	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Filling time 15"				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 1'	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying 1'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Filling time 15"				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying 1'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
End				X	X	X	X		X	X	X	X		X	X	X	X		X		X		X		X

Dishwasher without Drying Fan ON

Drying																								
Regenerate				X	X	X	X		X	X	X	X		X	X	X	X		X		X		X		
Drying 60'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 1'	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Filling time 15"				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 1'	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying 1'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Filling time 15"				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying 1'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
End				X	X	X	X		X	X	X	X		X	X	X	X		X		X		X		X

Dishwasher without Drying Fan OFF

Drying																								
Drying 15'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 1'	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Filling time 15"				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 1'	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying 1'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Filling time 15"				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Drying 1'				X	X	X	X		X	X	X	X		X	X	X	X		X				X		
Draining 30"	V			X	X	X	X		X	X	X	X		X	X	X	X		X				X		
End				X	X	X	X		X	X	X	X		X	X	X	X		X		X		X		X

2.5 Testing/Autotest procedure

To start the procedure, follow the instructions below:

1. Reset the machine with the **"Reset" button**
2. Select **OFF** (*machine shutdown*)
3. Check that the appliance door is closed
4. Turn the selector to **"Reset"**
5. Press and hold the **"Deley"** button and select **ON** (*switched on*)
   At this stage an acoustic signal will sound.
6. Always keeping the **"Deley"** button pressed, select **OFF** (*switched off*) and then **ON** (*switched on*) again.
   At this stage an acoustic signal will sound and **"C 0"** will appear on the **display.**
7. After releasing the **"Deley"** button, repress it four times consecutively.
   At this stage **"C 4"** will appear on the **display.**
8. Turn the selector to any position (*not reset*)
9. After about 4" the testing cycle will start

N.B. In the L 83 Duo machines the push button to press is not the "Delay" but is the "Select" button.

Starting Functional Testing

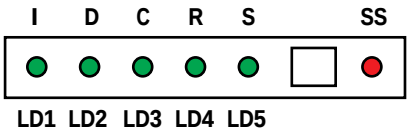
1. Fill as indicated in the program, plus 5" motor and heater
2. Washing motor 5"
3. heater 5"
4. Dispenser 5"
5. Regenerate 15"
6. Drying fan 5"
7. Half load 5"
   If the machine is provided with the alternate wash:
   - Only less than 5" from when the position is reached
   - Only more than 5" from when the position is reached
8. Drain pump 15"
9. Drying fan 5"
10. Load solenoid valve 25"

To exit the testing cycle/autotest, turn the selector to "Reset"; after 4" the cycle will stop.

3 TOTAL EMBEDDING DISAPPEARANCE WITH DIWA 126 TIMER

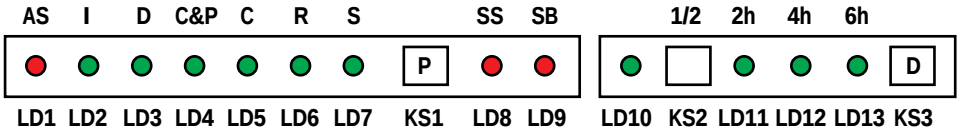
3.1 Warnings

Led 1 Intensive Cycle	Overflow	Switching Led 1
Led 2 Daily Cycle	NTC c.a. or in c.c.	Switching Led 3
Led 3 Crystal Cycle	Heating Timeout	Switching Led 4
Led 4 Rapid Cycle	Discharge Timeout	Switching Led 1 - 2
Led 5 Soack Cycle	Pressure switch Timeout P.	Switching Led 2 - 3



I Intensive
D Daily
C Crystal
R Rapid
S Soack

4 TOTAL EMBEDDING DISAPPEARANCE WITH DIWA 123 TIMER

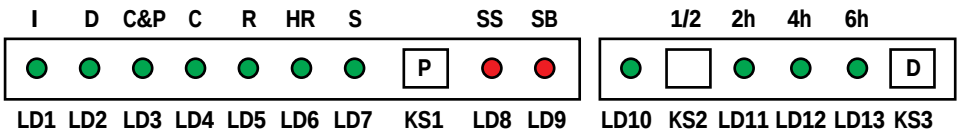


I Auto Intensive
D Auto Daily
C&P Auto Crystal & Pot.
C Crystal
R Rapid
S Soack

Characteristics

- Alternate
- – load up
- Delay timer 2-4-6 hours
- Turbidity sensor
- Use of low speed in the Crystal & Pot programme when the machine washes the upper basket
- Use of low speed in the Crystal programme both when the machine washes the upper basket and the lower basket.

N.B. Auto means that in the cycle definition intervenes the turbidity measure, therefore, each Auto cycle is really constituted by four distinct cycles directed by the turbidity level.

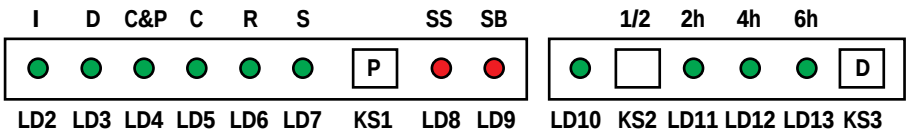


I Auto Intensive
D Auto Daily
C&P Auto Crystal & Pot.
C Crystal
R Rapid
HR Hot Rinse
S Soack

Characteristics

- Alternate
- – load up
- Delay timer 2-4-6 hours
- Turbidity sensor
- Use of low speed in the Crystal & Pot programme when the machine washes the upper basket
- Use of low speed in the Crystal programme both when the machine washes the upper basket and the lower basket.

N.B. Auto means that in the cycle definition intervenes the turbidity measure, therefore, each Auto cycle is really constituted by four distinct cycles directed by the turbidity level.

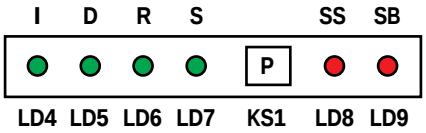


I Intensive
D Daily
C&P Crystal & Pot.
C Crystal
R Rapid
S Soack

Characteristics

- Alternate
- – load up
- Delay timer 2-4-6 hours
- Turbidity sensor
- Use of low speed in the Crystal & Pot programme when the machine washes the upper basket
- Use of low speed in the Crystal programme both when the machine washes the upper basket and the lower basket.

N.B. Since the turbidity sensor is not present, the C&P programme assumes the cycle corresponding to TorbLevel =1 (“after dinner” light cycle).
Since the turbidity sensor is not present, I and D programmes assume the cycle corresponding to TorbLevel)=4.



I Intensive
D Daily
R Rapid
S Soack

Characteristics

- No _ load. ◊ **control not operative on ev. _ load**
- No alternate
- No delay timer
- No sensor ◊ assumption of default of the cycles corresponding to TorbLevel=4 for the Intensive and Daily programmes.
- No double speed for the pump ◊ **control not operative on pump auxiliary winding.**

4.1 Functioning

4.1.1 Machine in idle

- If the machine is not set the programming diodes are switched off. It is possible that the salt spy and gloss spy will be “on”.
- All the setting carried out by the user must be done with the door open, because the machine will not accept any commands if the door is closed unless one wants to “enter” into one of the accessory cycles (Service and Running-in).

4.1.2 Setting of delay timer

(only for machines with the delay timer setting key)

- Every time the delay timer setting key is pressed the machine produces a beep sound and the diode relative to the set delay is switched on (2h or 4h or 6h).

4.1.3 Setting the washing on one basket only

(only for machines provided with the _ load push button, and in any case with reference to the upper basket only even if the alternate washing is present)

- The defaults are selected for both baskets, the diode corresponding to the setting of the upper basket is off, by pushing the basket setting key the machine will produce a beep sound and the associated diode will switch on, by pushing the basket setting key a second time the machine will produce a beep sound and the diode will switch off.

4.1.4 Setting a washing programme

- Every time the programming setting key is pressed the machine will produce a beep sound and the diode relating to the selected programme will light up.

Instance in which the delay timer has not been set up:

- Upon shutting the door with a selected programme the selected washing programme signalled by a beep sound will start.

Instance in which the delay timer has been set-up:

- If the delay timer were set at a value lower than 0 and a programme has been set-up, upon shutting the door, the machine will produce a beep sound and the count-down, highlighted by a flashing diode corresponding to the delay set, will start.
  Every time the door is opened the counting will stop, but the diode corresponding to the remaining hours for the programme to start, will continue to flash.

The following scheme will apply:

a) if there are ≤ 2 hours left to the starting of the programme then the diode corresponding to 2h delay will flash

b) if there are ≤ 4 and > 2 hours left to go the diode corresponding to 4 h delay will flash

c) there are ≤ 6 and > 4 hours left to go the diode corresponding to 6 h delay will flash

Upon completion of the washing the diode, corresponding to the set programme, will continue to flash "softly" until the programmes setting key is pressed; having pressed the said key the machine is ready for the setting of a new cycle.

4.1.5 Resetting the setting-up

It is always possible to reset the washing cycle by pressing for 2" the programmes setting key, independently as to whether is opened or closed.

4.1.6 Entry in testing

1. Door shut.
2. Feeding the machine by keeping the programme setting key pressed.
3. The produces a beep sound.
4. Stop feeding and feed again the machine by keeping the programme setting key pressed.
5. The machine will produce a beep sound and diodes **LD4, LD5, LD6, LD7** will light up.
6. Press three times to enter in running in (**LD4 and LD5 off, LD6, and LD7 on**) and four times to enter in service (**LD4 and LD5 and LD6 off, LD7 on**).
7. If the pressure configurations are valid, then the machine, after 2" from the last pressure of the key will produce a beep sound and starts the chosen accessory programme.
8. It is possible to exit from the running-in programme or service by pressing for 2" the programme setting key.

Instance in which there has been a running-in entry:

During the entire running-in stage, consisting in heating and release of washing powder and subsequent discharge stage, the machine will keep the **LD4, LD5, LD6, LD7** programme diodes lit up; in the subsequent loading stage the various steps indicated by the sequential activity of the LD4, LD5, LD6, LD7 diodes in the way as mentioned hereunder:

	LD4	LD5	LD6	LD7
1) Ev. load	Off	Off	Off	On
2) Washing Pump	Off	Off	Off	Off
3) Resistance	Off	Off	On	On
4) Dispenser	Off	On	Off	Off
5) Ev. regenerate	Off	On	Off	On
6) Fan (full Pr.)	Off	On	On	
7) Ev. _ load or alternate	Off	Off	Off	
8) Discharge pump	On	Off	Off	On
9) Fan (Empty Pr.)	On	Off	On	Off
10) Ev. load	On	Off	On	On
11) End Sequence	The Leds **LD4, LD5, LD6, LD7** flash			
12) Press programmes setting-up key to exit from End Sequence stage and put the machine back to the user programming mode.				

The functioning is made up of the loading sequence only (steps 1)..11)).

N.B. If the set programme is the running-in then the fault finding routine is not active.

If the set programme is functional then the faults finding routine is active.

4.1.7 Faults

<Type of fault>	<Visualized code>			
	LD4	LD5	LD6	LD7
1) Water-stop intervention(1)	Off	Off	Off	On
2) Relay in c.c	Off	Off	On	Off
3) Probe in c.c./c.a.	Off	Off	On	On
4) Temperature reaching time-out	Off	On	Off	Off
5) Empty press. Reaching time-out	Off	On	Off	On
6) Discharge Triac pump in c.a.	Off	On	On	On
7) Aux. avv. Triac pump in c.c./c.a.	On	Off	Off	Off
8) Prin.avv. Triac pump in c.c./c.a.	On	Off	Off	On
9) Ev. load triac pump in c.c/c.a.	On	Off	On	Off
10) Ev._load or alt. Motor Triac.	On	Off	On	On
11) Relay in c.a.	On	On	Off	Off
12) Triac dispenser in c.c./c.a.	On	On	Off	On
13) Vacuum finding pressure switch during washing stage after the restoring sequence.	On	On	On	Off

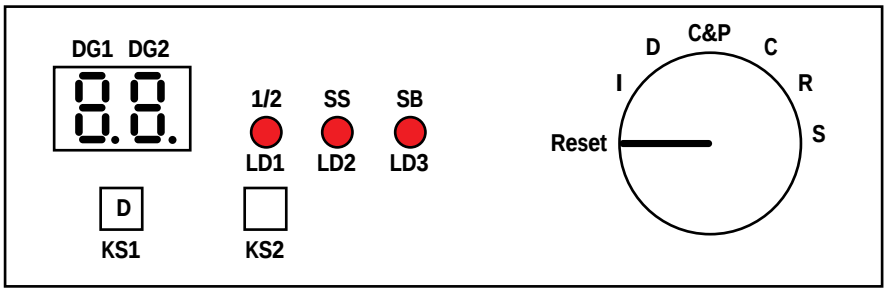
(1) Attention must be paid with scholtes machines (LVTI12-621 in case water stop intervention were to happen Led 01 (AS “water-stop”) together with Led 07 (S “soack”) would light up.

4.1.8 Warnings

<Bit Pos.>	<Type of fault>	<Visualized code>
1	Ev. Triac restore in c.c./c.a.	Nothing is visualized
3	Lack of water	With the door shut, it produces a beep sound every 5" waiting full pressure switch(1)
6	Eeprom	Nothing is visualized
7	Turbidity sensor	Nothing is visualized

(1) Upon reaching full pressure switch the beep sound stops.
Warning id given through the following procedure:
- Ev. load ON for 6” no full pressure switch
- Ev. load OFF 2'
- Ev. Load ON and warning lack of water, goes back to point 1.

5 EMBEDDING WITH FRONTAL VIEW



I Intensive
D Daily
C&P Crystal & Pot.
C Crystal
R Rapid
S Soack

Characteristics

- Alternate
- – load up
- Delay timer from 1 to 9 hours
- Turbidity sensor
- Use of low speed in the Crystal & Pot programme when the machine washes the upper basket
- Use of low speed in the Crystal programme both when the machine washes the upper basket and the lower basket.

N.B. Auto means that in the cycle definition intervenes the turbidity measure, therefore, each Auto cycle is really constituted by four distinct cycles directed by the turbidity level.

5.1 Functioning

5.1.1 Machine in idle

- If the machine is not set the 2 digits and relative diode for half load are off, the salt and glossing spies are lit up.

5.1.2 Setting up of the delay timer

- Every time the delay timer setting-up key is pressed the machine will produce a beep sound and will show on the 2 digits the value of the delay that has been set.

Example: for a setting-up of a 6 hours delay, the machine will show **6H**.

5.1.3 Setting-up of washing into one basket only

- The defaults are selected in both baskets, the diode corresponding to the setting-up of the upper basket is off, by pressing the basket setting-up key the machine will produce a beep sound and the relative diode well light-up.
  By pressing the basket setting-up key a second time the machine will produce a beep sound and the relative diode will switch off returning to the default setting-up.

5.1.4 Setting up a washing programme

- The setting up of one of the 6 programmes available to the user is possible through the 7 positions selector.

Instance in which the delay timer has not been set-up

- The selector stays fixed for 4" on a position different from that of resetting, after the door has been closed, the washing programme, signalled by a beep sound will start, and the estimated time left to the of the cycle will be visualized.
  The time is shown in minutes, should it be more than or equal to 99 minutes the machine will flash **"99"**.

Instance in which the delay timer has been set:

- If the delay timer has been set for a value different from 0 and a programme has been set, after 4" from having shut the door the machine will produce a beep sound and the count down will commence before the washing cycle starts.
  The proceeding of the count down is highlighted by the flashing of the diode on digit 2 and by the hourly decreasing of the delay time. Every time the door is opened the count down will stop and the diode will stop flashing.

At the end of the washing a soft flashing with the **'00'** writing will appear on machine until when the selector is not put on a resetting position. Once the selector has been put on a reset position the writing **'00'** will disappear and the machine is ready for a new setting cycle.

5.1.5 Resetting the set-up

It is possible to reset the washing cycle by putting the selector on the resetting position 4".

5.2 Entry in testing

1. Door shut.
2. Selector in reset position.
3. Activate the machine by keeping delay setting key pressed.
4. The machine will produce a beep sound.
5. Deactivate and reactivate the machine by keeping delay setting key pressed.
6. The machine will produce a beep sound and will show C0.
7. Press three times to enter into running-in (it shows C3) and 4 times to enter in to service (it shows C4).
8. If the configuration of the pressing action is one of the valid ones then the machine, after 4" from the last key pressing will produce a beep sound and the chosen accessory programme will start.
9. At this point there are 4" available to bring the selector in a different position from the reset one, if this happens then the programme is reset.
10. It is possible to exit from the running-in or the assistance programme by bringing the selector back on the reset position.

Instance in which there is an entry in running-in:

During the entire running-in stage, consisting in heating with discharge of washing powder and subsequent discharge phase until the pressure switch is empty +10" the machine shows **C3**, in the subsequent loading phase the various steps are indicated by the visualization of the step carried out as mentioned hereunder:

1) Ev. load	00
2) Washing Pump	01
3) Resistance	02
4) Dispenser	03
5) Ev. regenerate	04
6) Fan (full Pr.)	05
7) Ev. _ load or alternate	07
8) Discharge pump	08
9) Fan (Empty Pr.)	09
10) Ev. load	10
11) End Sequence	00 flashes

12) Put the selector in the reset position to exit from End Sequence phase and put the machine back in user's programming mode.

The functioning is made up of the loading sequence only (steps 1)..11)).

N.B. If the set programme is the running-in then the fault finding routine is not active.
If the set programme is functional then the faults finding routine is active.

5.3 Faults

<Type of fault>	<Visualized code>
1) Water-stop intervention	01
2) Relay in c.c	02
3) Probe in c.c./c.a.	03
4) Temperature reaching time-out	04
5) Empty press. Reaching time-out	05
6) Discharge Triac pump in c.a.	07
7) Aux. avv. Triac pump in c.c./c.a.	08
8) Prin.avv. Triac pump in c.c./c.a.	09
9) Ev. load triac pump in c.c/c.a.	10
10) Ev._load or alt. Motor Triac.	11
11) Relay in c.a.	12
12) Triac dispenser in c.c./c.a.	13
13) Vacuum finding pressure switch during washing stage after the restoring sequence.	14

5.4 Warnings

<Bit Pos.>	<Type of fault>	<Visualized code>
1	Ev. Triac restore in c.c./c.a.	Nothing is visualized
3	Lack of water	H2 will flash until full Pr is not reached
6	Eeprom	Nothing is visualized
7	Turbidity sensor	It doesn't visualize anything, it assumes the turbidity level to be equal to 4 for the auto cycles

6 DISASSEMBLY OF MOTOR-SUMP UNIT

The overflow system is integral with the motor unit.

After releasing the impeller, to disassemble the motor it is necessary to unscrew the overflow head as shown in the Fig. 1 and then unscrew the lower clearance ring.

Fig. 1

Fig. 2

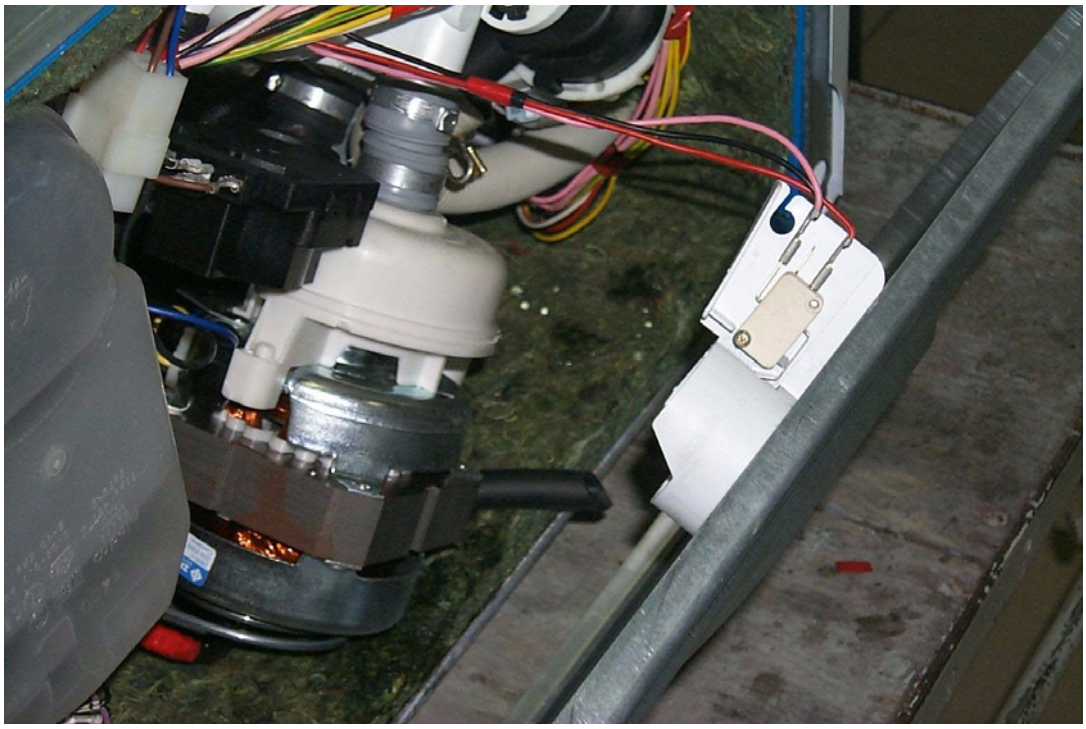


Fig. 3

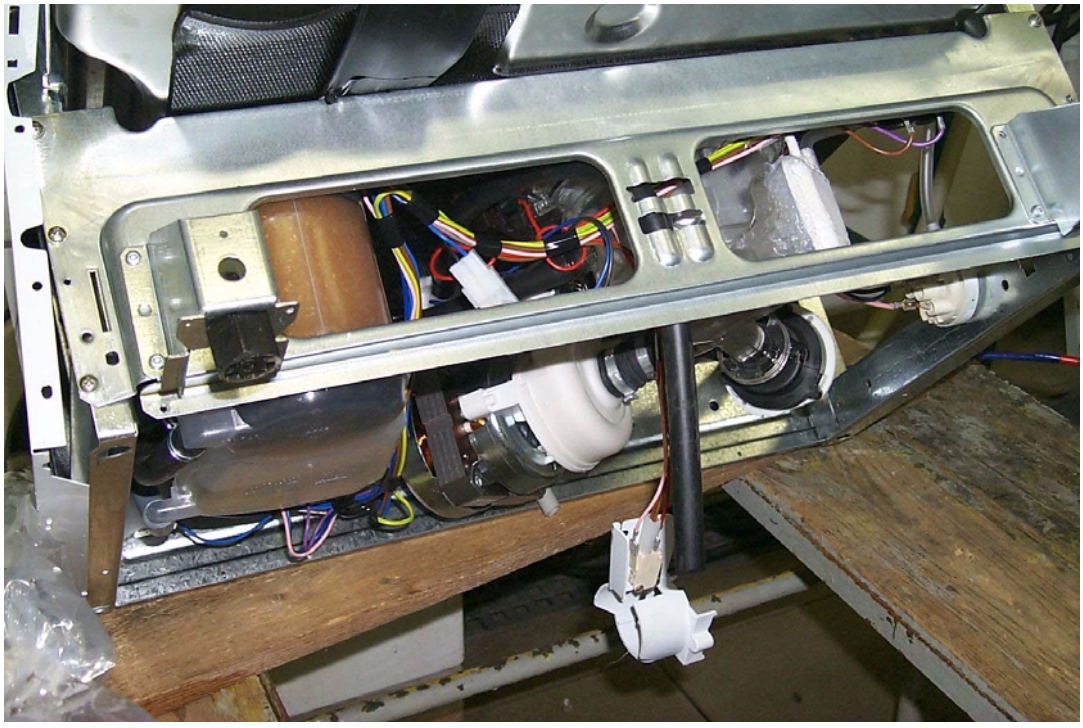
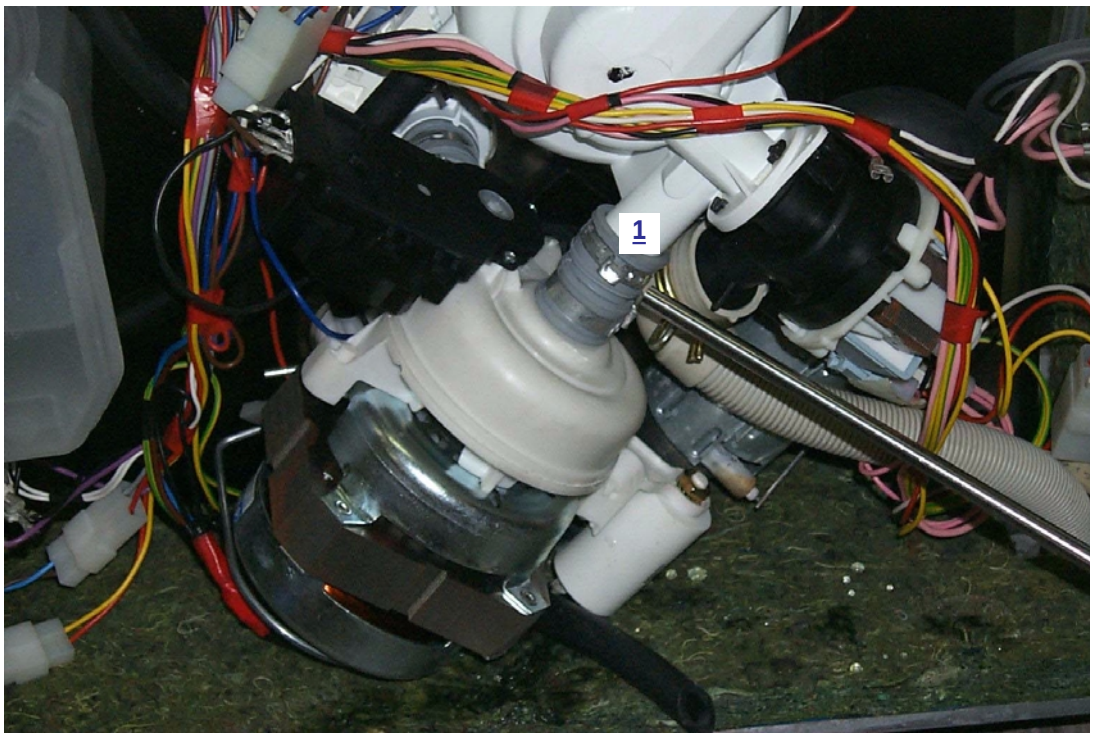
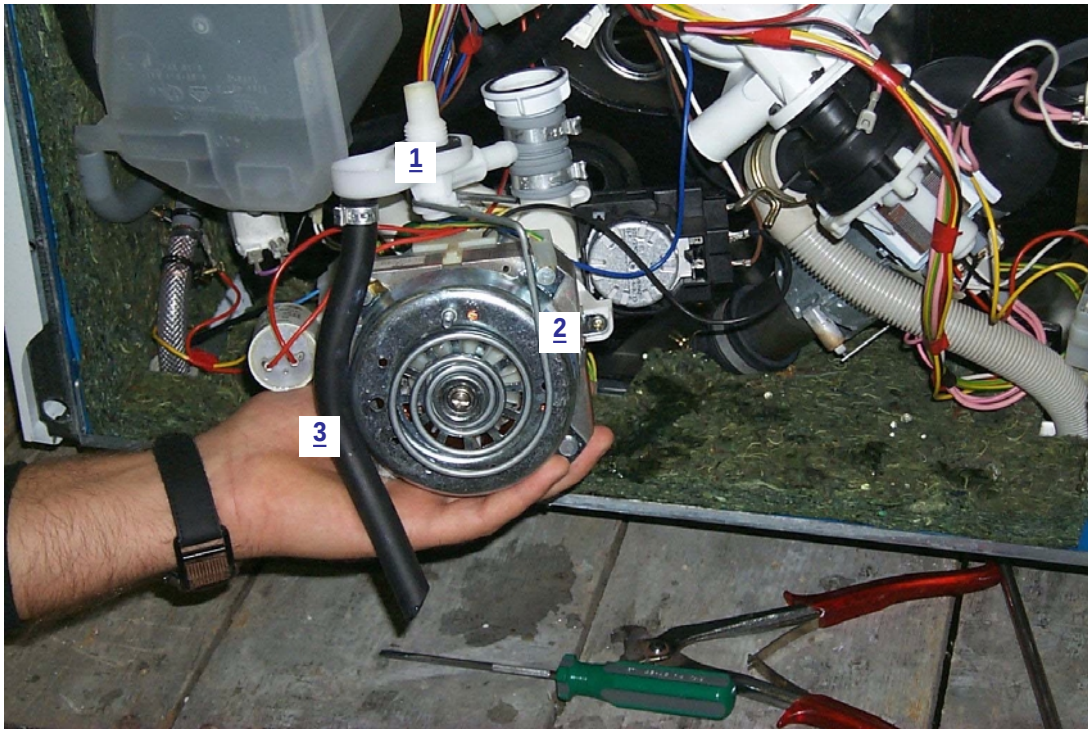


Fig. 4



1 Remove and replace band after operation

Fig. 5



1 Lower part of the overflow head, located above the motor with non barycentric spring.
2 Non barycentric spring fixed to motor
3 Overflow hose resting on tray

7 NEW OVERFLOW SYSTEM

The system is activated when a water overflow occurs, due to component malfunction (e.g.: Pressure switch, Timer, etc.) thus avoiding flooding.

If more than 9.5 litres of water enter into the tank the system is activated.

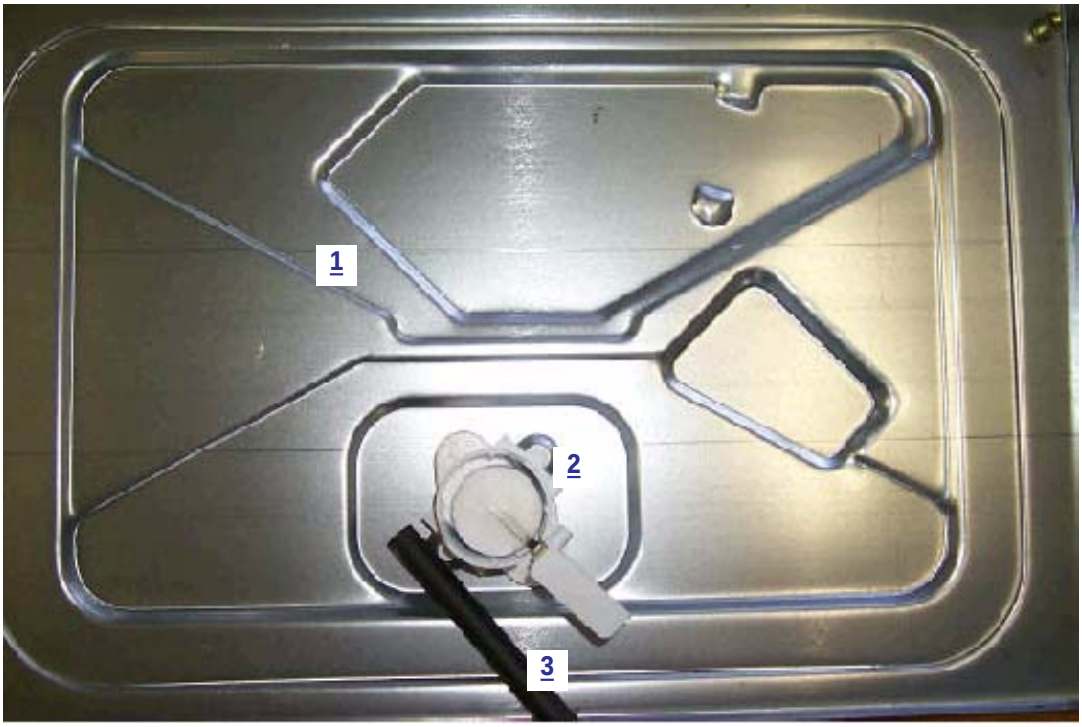
The water overflow level in the tank is determined by the position of the holes on the head, as shown in Fig. 6.

Fig. 6

1 Overflow drain system seen from inside of tank

The overflowing water flows through the drain hose (Fig. 7) and triggers the micro switch with about 0.5 litres.

Fig. 7



1 Overflow tray under dishwasher
2 Float with microswitch
3 Correct position of overflow hose on tray

7.1 New Float

Fig. 8

The new float which will replace the current one is shown in the Fig. 8.

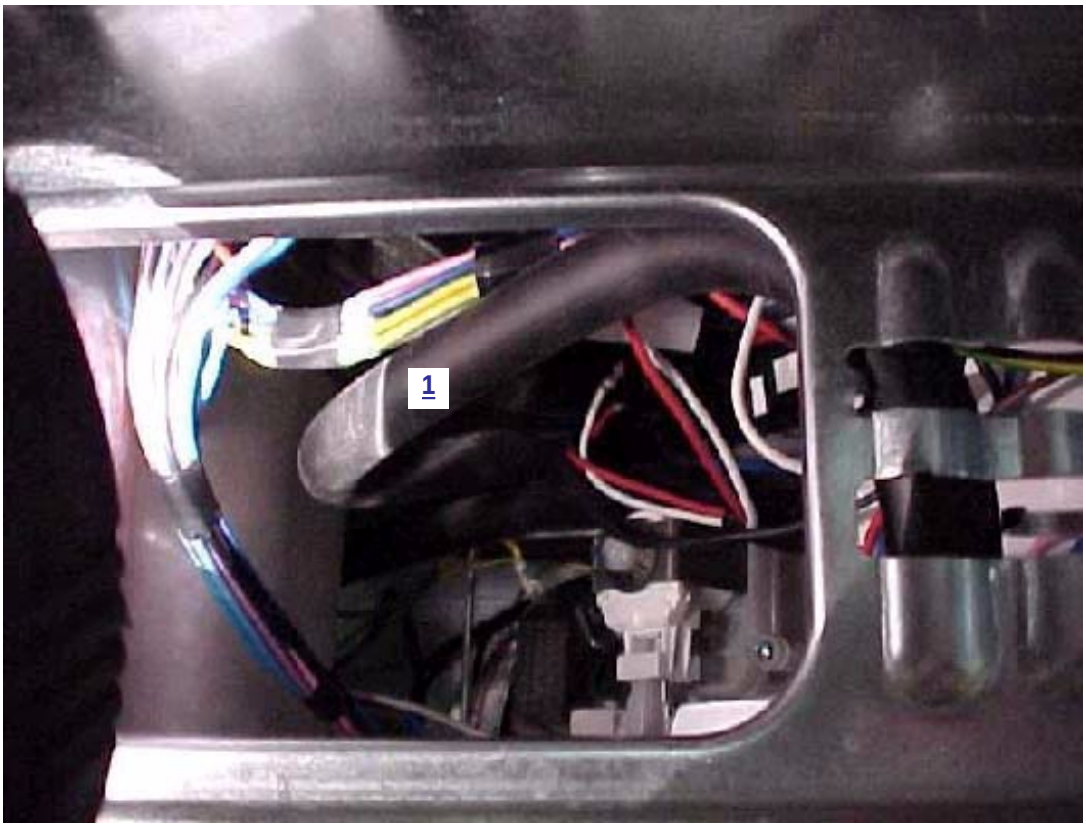
The new float is designed to prevent dishwashers with an alternate wash motor from obstructing the movement if there is an overflow.

N.B. If the hose is positioned incorrectly, in case of overflow, the anti-flood system operation may be delayed or stopped completely.

The new float will replace the old one, but not vice versa.

The Fig. 9 shows the **incorrect** position of the overflow hose which passes under the wiring, not allowing correct operation of the system.

Fig. 9



1 Incorrect position of overflow hose

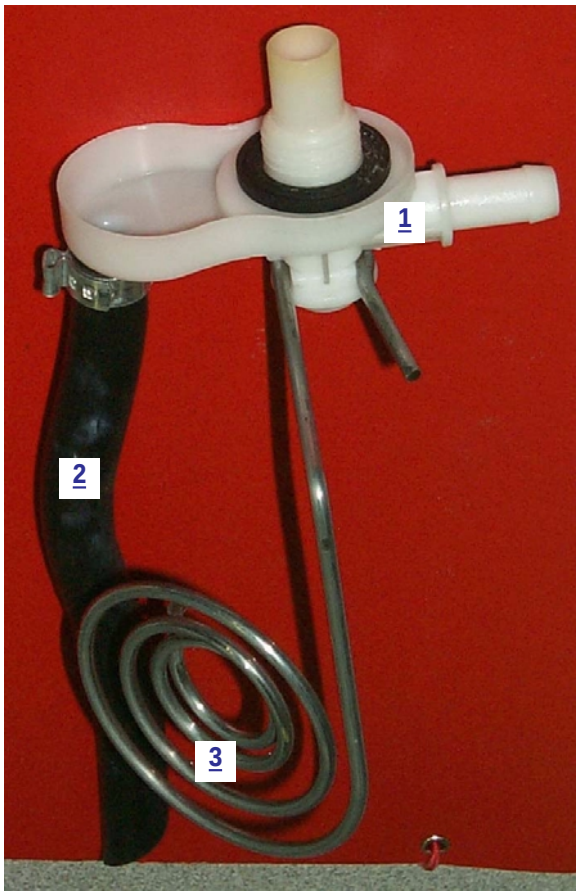
N.B. The overflow hose must pass over the wiring, because if it is positioned as shown in the figure, it would create a loop which would not allow the water to flow, thus preventing the overflow system from working properly.

8 NEW SYSTEM TO FIX MOTOR

The new system consists in a non-barycentric spring, locked on the right-hand side of the motor and fixed to the base of the tank with the lower part of the overflow head.

This allows motor suspension, thus reducing noise caused by vibrations.

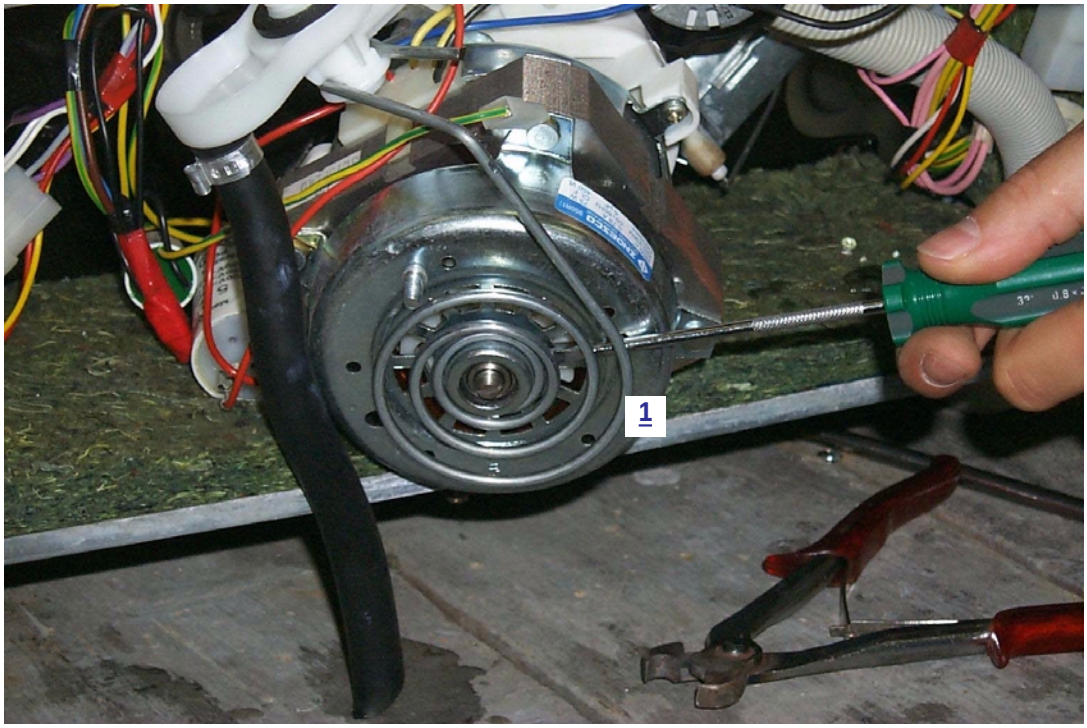
Fig. 10



1 Lower part of overflow head located over the motor with non barycentric spring
2 Overflow hose
3 Non barycentric spring

The Fig. 11 shows how to proceed to disassemble the non barycentric spring.

Fig. 11



1 Non barycentric spring

9 NATURAL DRYING SYSTEM

This new airbrak, located above the tank, allows the steam produced during the warm rinse (temperature reaches 66°C/67°C) to be released more easily. Part of the steam will be eliminated through the airbrak and a smaller part will condense.

Condensate will be eliminated by means of a lateral pocket connected to the drain of the appliance.

Fig. 12

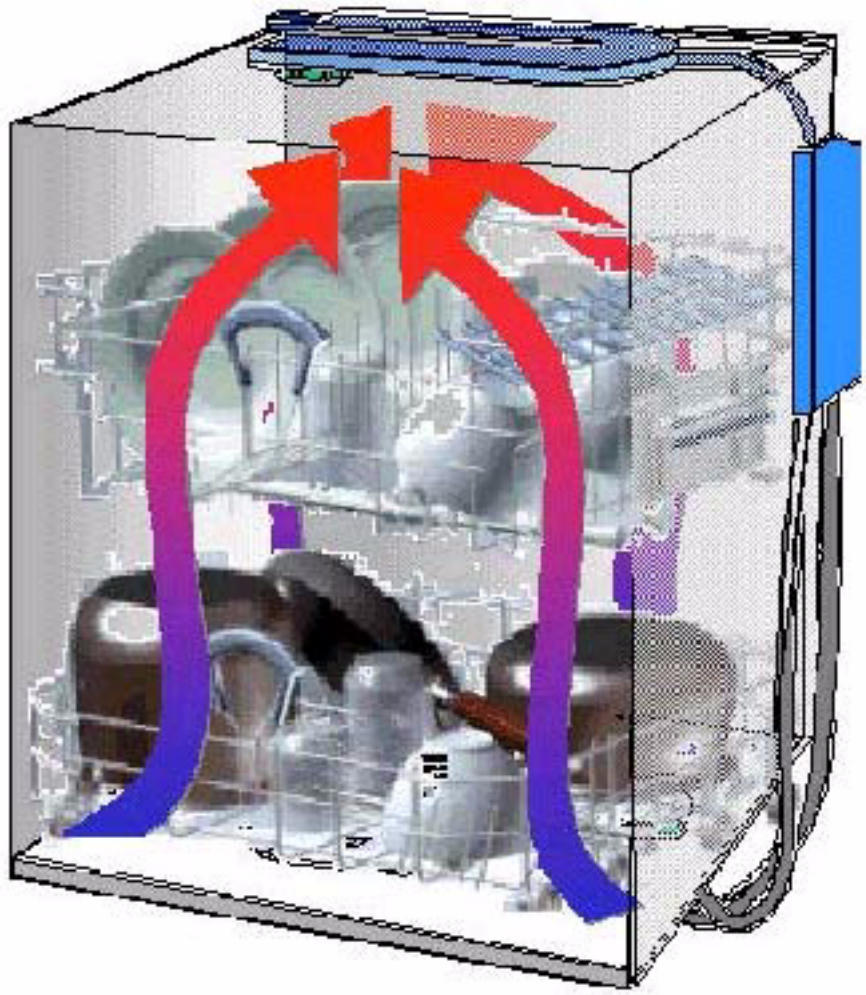


Fig. 13

1 Airbrak position

N.B. The position of the airbrak is very important, as indicated in the Fig. 13, to prevent steam from leaking and damaging the machine top.

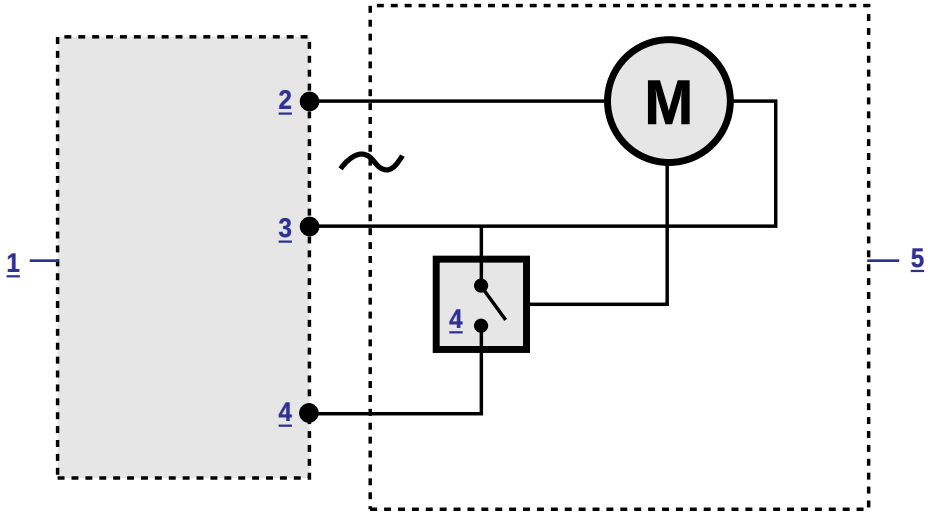
10 ALTERNATE WASH MOTOR

Fig. 14

1 Turbidity sensor
2 Alternate Wash Motor

10.1 Alternate Wash Motor Wiring Diagram

Fig. 15

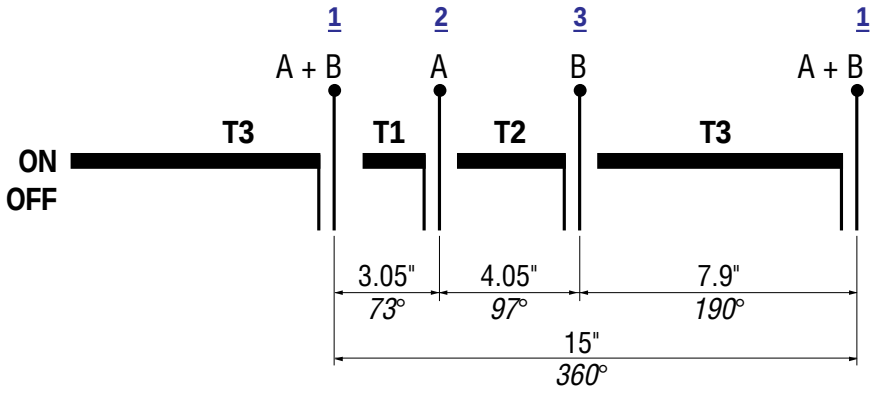


1 Electronic timer
2 Motor
3 Common
4 Sensing
5 Driven actuator for alternate wash

10.2 Sensing signal

The sensing device determines the water flows on the upper and lower impeller, alternately, reducing wash noise.

Fig. 16



1 Upper/lower sprayers open
2 Upper sprayer open
3 Lower sprayer open

A+B; **A**; **B**STOP positions

T1 1.75"
T2 3.15"
T3 7.05"

N.B. Every STOP position occurs 0.1" after contact opening.
Tolerance limit ±0.1".

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